California Department of Public Health
Division of Drinking Water and Environmental Management

Technical, Managerial and Financial Capacity Criteria

for

SRF Applicants of Noncommunity Water Systems

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ACRONYMS

ASDWA.....Association of State Drinking Water Administrators
AWWA .....American Water Works Association
CCR.....California Code of Regulations
CEQA.....California Environmental Quality Act
CHSC .....California Health and Safety Code
CIP .....Capital Improvement Plan
LPA.....Local Primacy Agency
NEPA .....National Environmental Protection Act
SDWA.....Safe Drinking Water Act
SRF .....State Revolving Fund
SWAP .....Source Water Assessment and Protection Program
SWRCB.....State Water Resources Control Board
TMF .....Technical, Managerial and Financial Capacity
USEPA.....United States Environmental Protection Agency

Introduction

The 1996 federal Safe Drinking Water Act (SDWA) introduced the concept of Technical, Managerial and Financial (TMF) Capacity for public water systems. This concept involves a public water system having the capability through its financial resources, technical resources, organizational structure and personnel to comply with all applicable drinking water standards and regulations. In addition, the concept of capacity involves being able to plan for the future and use the necessary resources to keep the water system in compliance. The federal SDWA encourages, and in some circumstances requires, states to incorporate the TMF Capacity concept into their drinking water regulatory program. The California Department of Public Health (Department) is developing and implementing a strategy to incorporate TMF Capacity development into California's drinking water regulatory program. The TMF Capacity Criteria contained in this document is a part of the Department's TMF Capacity development strategy.

The definitions of Technical, Managerial, and Financial Capacity given in guidance published by the United States Environmental Protection Agency (USEPA) are very general in nature. As such, the Department has developed criteria to use in assessing the TMF Capacity of public water systems in the state of California. However, because implementation of this criteria will vary based on the type of water system being assessed, two sets of TMF Capacity Criteria have been derived from the overall criteria, one for community water systems and one for noncommunity water systems. **This document contains the TMF Capacity Criteria that will be applied to community water systems applying for the SRF loan program.**

For each element of the TMF Capacity Criteria contained in this document, an introductory paragraph is given that describes why developing capacity in that area is important. Following this paragraph, a section entitled *Documentation* is included. In order for the Department or the Local Primacy Agency (LPA) to evaluate a water system's ability to comply with a particular TMF Capacity element, the information listed under *Documentation* must be submitted for review. Following the section on documentation, a section entitled *Evaluation* is included that lists the items that will be considered by the Department or LPA in evaluating a water system's TMF capacity.

The Department encourages all public water systems to review the TMF Capacity Criteria contained in this document and to work toward acquiring and maintaining that capacity. To this end the Department will implement a strategy to assist public water systems in meeting these TMF Capacity Criteria. However, these criteria are only required of the systems described below.

SRF Applicants

The 1996 federal SDWA requires all states participating in the Safe Drinking Water State Revolving Fund (SDWSRF) program to obtain legal authority to ensure all new community and nontransient noncommunity water systems demonstrate adequate TMF Capacity before being allowed to commence operation. The 1996 federal SDWA also prohibits any state participating in the SDWSRF program from providing financial assistance to any public water system that does not have the TMF Capacity to comply with all SDWA requirements or cannot achieve adequate TMF Capacity with the SDWSRF financial assistance.

In response to these federal requirements, Section 116540 of the California Health and Safety Code was enacted. This section states that, "*No public water system that was not in existence on January 1, 1998, shall be granted a permit unless the system demonstrates to the department that*

the water supplier possesses adequate financial, managerial, and technical capability to assure the delivery of pure, wholesome, and potable drinking water. This section shall also apply to any change of ownership of a public water system that occurs after January 1, 1998." **It should be noted that the California SDWA goes beyond the federal requirements by applying the TMF Capacity Criteria to transient noncommunity water systems and to water systems changing ownership.**

The Department will use the Criteria elements contained in this document to assess the TMF Capacity of community water systems. How each TMF Capacity element will be applied to SRF applicants is shown in the Applicability Chart given on page 3.

The following designations are used to indicate how each element of the TMF Capacity Criteria will be applied to SRF applicants:

Mandatory: Compliance with element is required, prior to the issuance of the Notice of Application Acceptance.

Necessary: Compliance with element will be required within a specified time frame determined by the Department or LPA, taking into account the size and condition of the water system.

Although compliance may not be required at the time a SRF application is submitted, information needed to evaluate a water system's ability to comply with the element must be submitted no later than the application deadline.

TMF Capacity Criteria Applicability Chart for SRF Noncommunity Water Systems

	SRF Applicants
Technical Capacity	
A. Consolidation Feasibility	M
E. System Description	N
F. Certified/Qualified Operators	N
G. Operations Plans	N
Managerial Capacity	
B. Ownership	M
C. Water Rights	M
H. Organization	N
J. Emergency/Disaster Response Plans	N
Financial Capacity	
D. Budget Projection	M

Applicability may be changed from *Necessary* or *Mandatory* depending on the size and/or complexity of the water system.

Definitions:

M = Mandatory. Compliance with element is required prior to the issuance of the Notice of Application Acceptance.

N = Necessary. Compliance with element will be required within a specified time frame as a permit condition.

MANDATORY TECHNICAL, MANAGERIAL & FINANCIAL CAPACITY ELEMENTS

A. Consolidation Feasibility

CHSC, Section 116555(c) requires that a public water system provide a reliable and adequate supply of pure, wholesome, healthful, and potable water at all times. For new systems, this determination is part of the permit process. However, for existing community systems, a technical evaluation of the physical facilities and the operation of the system is essential in order to assess the capacity of the system to reliably meet drinking water standards and to properly budget for needed improvements. The evaluation is necessary, not only to assess the condition of existing facilities, but to also project the need for replacement of existing facilities. The technical evaluation will also assess the need for new facilities to accommodate system growth over the next ten years. This will then enable the utility to identify and prioritize improvements needed to reliably comply with existing and projected drinking water standards, develop a prioritized capital improvement plan, and assess finances needed to support the improvements.

Documentation: The water system must submit the following information:

1) **Consolidation Feasibility** – An assessment to identify all existing public water systems located in the immediate proximity of the existing water system. The assessment must determine the feasibility of incorporating into an existing water system or being owned, operated or managed by another agency.

B. Ownership

In order to determine accountability for compliance with California SDWA requirements, the owner(s) of the water system must be clearly identified. The state grants the authority for an organization, city or town, authority, cooperative, corporation or other entity to provide water to the public. State law, which specifies both the procedures for creating the entity as well as the powers, duties, and responsibilities of that entity, generally grants this authority. Documents that form the legal basis of the system's existence prescribe the conditions under which the system may legally operate and provide the framework for the operation and functioning of the water system. It is essential that the water system management understand the authority for their entity and any limitations/conditions of that authority. It is also essential that the system demonstrate that they own or control the facilities necessary for the operation of the system.

Documentation: The water system must submit the following information:

1) Description of the type of system ownership (e.g., sole proprietorship, partnership, corporation, mutual, governmental agency) along with the name(s), address(es), and phone number(s) of the owner(s). **A copy of the "Deed" will help document "Ownership" and "Water Rights".**

2) If the water system is under temporary ownership (e.g., a developer), the eventual ownership and timing for the change in ownership must be described.

3) If land or major facilities that are essential to the reliable operation of the water system are not legally owned by the water system, the terms of the agreement for the long-term use of the land or facilities must be described. Examples of the type of agreements that must be described include easements for facilities on land not owned by the water system and agreements for the use of or leases for treatment facilities. **A copy of this agreement is the best documentation.**

4) The owner of the water system must list all public water systems that are currently or have previously been owned by the applicant (solely or in partnerships, as corporations, etc.) Applicants must also list any water system that they previously operated or are currently operating under contract for another owner or entity.

5) In the case of a sole proprietor, a plan must be submitted that details how the system will continue to be operated in the event the owner becomes incapable of carrying out this responsibility.

6) Disclosure of any encumbrances, trust indentures, bankruptcies, decrees, legal orders or proceedings or other items that may affect or limit the owner's control of the water system.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) The ownership must be a legal entity empowered by the State of California to manage and operate the public water system.

2) The duration of agreements for use of land or facilities not owned by the water system must be sufficient to ensure that the water system can continue to operate its facilities, providing an uninterrupted and reliable source of water to its customers.

3) If the documentation submitted by the water system does not clearly show who the owner is and that the system has a legal right to the use of land and facilities (essential to the operation of the water system) that it does not own, then the applicant should be asked to supply a letter from their attorney giving this information and certifying the system's legal authority.

C. Water Rights

It is essential that the water system have a legal right to the quantity of water necessary to assure an adequate and reliable drinking water supply. This must be demonstrated for a new public water system and for systems changing ownership. For an SRF applicant, a demonstration of adequate water rights is required if the project being funded by the SRF program is dependent upon that right. A written copy of the water right (permit, license or other agreement) should be maintained as a part of the system records.

Documentation: The water system must submit the following information:

1) Information that describes the legal basis and authority for diversion or extraction of water. If groundwater is being pumped from a groundwater basin that has not been adjudicated, a statement to that effect is sufficient documentation to satisfy this requirement**. If groundwater in an unadjudicated basin, then a copy of the "Deed" for the parcel that the well is located on, will suffice.**

2) If the source water is subject to permit requirements under the SWRCB, a copy of the water rights permit must be included.

3) Approval for extraction of water from an adjudicated groundwater basin must be demonstrated by confirming documents from the basin watermaster.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) The applicant has the responsibility to verify the legal basis and authority for diversion or extraction of water.

2) The water right must be sufficient to provide water for current users (taking into consideration other water sources such as those from unadjudicated groundwater basins).

3) If the documentation provided to demonstrate the system's water right is unclear, the system should be requested to provide a letter of confirmation from the authority that granted the water right.

D. Budget Projection

The budget projection is a written financial plan for the operation of the water system over the next five years. This is a critical feature of the TMF capacity assessment because it indicates whether the system's revenues and reserves will meet the system's expenses. It also is a necessary tool that will enable the water system to plan for future needs. The budget is the primary source of information for monitoring and controlling costs/expenses and ensuring the availability of adequate resources to meet the costs of operating the system. It also serves as an effective communication tool with consumers as to the full costs of providing safe, adequate, and reliable drinking water. Without this budget projection, there is no basis for judging how the system is doing financially or whether it will be able to meet future needs.

Documentation: The water system must submit the following information:

1) A detailed projection of anticipated revenues and expenditures for at least a five-year period. The budget projection shall also include the projected expenses to be incurred as a result of implementing the water system's CIP and its equipment replacement schedule and maintenance of equipment replacement reserves.

2) A consolidated financial statement (e.g., balance sheet and income statement) from the previous three years.

3) A copy of the current rate structure and the average annual cost of water per customer for the previous calendar year. For new public water systems: provide the proposed rate structure and estimated annual cost of water per connection.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) The analysis must indicate that rates combined with other revenue sources are sufficient to cover all listed expenditures. If the proposed revenues are overstated, or the expenditures understated, based on the previous two years of actual data, additional justification/information should be required.

2) Future anticipated revenues that are contingent upon a vote of the system users are generally not considered assured sources of revenue.

3) If anticipated revenues are based on an assumed "build-out" projection, this projection should be evaluated for reasonableness. In doing this, consultation with local planning authorities may be necessary. It may also be appropriate to require acquisition of a performance bond and include specific conditions in the permit as necessary.

4) If revenues are not sufficient to cover the proposed expenditures, the water system must submit a plan to increase revenues to cover expenditures.

5) For investor owned systems: the California Public Utilities Commission's review of the budget plan will be required.

NECESSARY TECHNICAL, MANAGERIAL & FINANCIAL CAPACITY ELEMENTS

E. System Description

"As-built" maps or drawings that show the location of all of the facilities in the system and maps that show the existing and future service areas, sources of supply and contamination hazards, and other critical facilities are essential to the operation of any water system. To be useful beyond the date they are prepared, the water system should have a method to keep the maps updated as changes occur. Knowing the location, type of materials, etc., of water mains or other facilities is necessary in order to check, repair or replace them. Similarly, it is essential during an emergency to know where the isolation valves are.

Documentation: The water system must submit the following information:

1) A description of the as-built drawings maintained and procedure used to ensure as-built drawings are created for all new facilities. As-built drawings of new facilities must be drawn to scale, show location, size, construction material, and year of installation of each water main or other facility.

2) A map showing the location of the system's existing service area, each water source, treatment facility, pumping plant, storage tank and pressure zone in the system, as well as all distribution system piping.

   For water systems required to complete a ten-year growth projection (see Source Capacity Assessment & Evaluation, page 7), the map must include the projected ten-year growth boundaries.

   For projects involving consolidation, include a physical map of the existing or proposed water system facilities that will be a part of the consolidation. The map should show the combined service area of the proposed consolidation. Based on the type of project, the Department may require a distribution system map to be submitted in order to better evaluate the application.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) The information must describe the as-built drawings maintained by the system and the procedure that has been adopted to ensure all new facilities will have as-built drawings prepared and maintained. The description of as-built drawings that are currently being maintained is for information only. Assessment of capacity is to be based only on the adequacy of the system's procedure for ensuring as-built drawings are prepared and maintained for all new facilities.

2) The service area map(s) must be accurate and include the location of all the water system's physical facilities.

F. Certified/Qualified Operators

The 1996 federal SDWA requires states to comply with guidelines being developed by the United States Environmental Protection Agency (USEPA) for an adequate operator certification program. The guidelines are to be completed by February 1999 and the state then has until February 2001 to comply. The USEPA, in developing these guidelines in cooperation with the National Drinking Water Advisory Council, the American Water Works Association (AWWA), the Association of State Drinking Water Administrators (ASDWA) and other stakeholders, concluded that it was essential that all community and

nontransient noncommunity water systems be under the operational control of an appropriately certified operator in order to assure reliable compliance with drinking water standards. The CCR, Title 22, requires certified operators for public water systems.

Documentation: The water system must submit the following information:

1) For existing or proposed water treatment plants, the name and grade of certification of each operator that will be operating the system.
2) Provide the name and qualifications of each person that will be operating the system.
3) If the operator(s) have not been hired, a plan and schedule for hiring one.
4) A description of relevant training and experience that persons responsible for the operation of the water system have received.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) All public water systems with existing water treatment plants must demonstrate that they comply with current state operator certification regulations. Systems proposing new water treatment plants must demonstrate that they will have an appropriately certified operator prior to commencement of the operation of the treatment facility.
2) Restricted Operator Certification: If the system is located in a disadvantaged community, it may propose to employ a person who holds or obtains a "Restricted Operator Certificate" as provided in CCR, Title 22, Section 63825. In this case, information provided must demonstrate that the person is qualified to operate the specific treatment and distribution facilities.
3) If the public water system has no treatment plant (e.g., distribution only or untreated groundwater source), they must have operator(s) 'qualified' to operate the system in accordance with state requirements

G. Operations Plans

There are numerous activities that are important to the operation and maintenance of a water system where failure to perform them on a routine basis can lead to degradation of the quality of water and result in an increased health hazard. Systems providing any type of water treatment are required to develop a treatment plant Operations Plan. Well-managed and operated systems have an Operations Plan that addresses all aspects of water system operation. By developing an Operations Plan, the system is assured that its operators are aware of the activities that need to be conducted to protect the quality of the water and maintain system facilities to assure maximum life. Also, many smaller systems have only one operator position with frequent turnover in personnel. New operators coming on board may not understand the procedures necessary to properly operate and maintain the system. The existence of an Operations Plan provides the necessary guidance for persons unfamiliar with the system.

Documentation: The water system must submit the following information:

1) For systems utilizing a surface water source, the water system must have a Department approved Surface Water Treatment Rule Operations Plan.
2) An Operations Plan for any other treatment provided (including chlorination). The plan should address treatment unit operational procedures, process monitoring, response to violations, and reporting.

3) A system Operations Plan that addresses how the system will be operated to comply with drinking water requirements and the California Waterworks Standards. Water system managers should develop the Plan with operating personnel and establish procedures to review the plan annually with operators. This plan must not be more than five years old, and as a minimum, must address the following items:

   a) Daily operational practices.

   b) Emergency operational practices.

   c) Flushing dead-end mains.

   d) Storage tank inspection and cleaning.

   e) Main repair and replacement.

   f) Consumer complaint response procedures.

   g) Maintenance and testing of backflow prevention devices.

   h) Inspecting and exercising water main valves.

   i) Maintenance of master flow meters.

   j) Responsibilities of operating personnel.

   k) Operation of all production, transmission and distribution facilities.

   l) Record keeping.

   m) A maintenance plan for all facilities to be constructed under the SRF program.

4) Procedures to review and update all Operations Plans every five years.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) Plan(s) submitted must be practical and address all of the above elements in sufficient detail to ensure adequate operation of the water system.

H. Organization

A clear description of the organization, including a functional organization chart, is essential for every water system. This establishes the lines of authority and communication between employees and management and helps to avoid confusion, mistakes, or misunderstandings in the daily operation and management of the system. It is also essential to define the respective roles of each person to avoid duplication and confusion, and to ensure that all essential functions are covered. Since small water systems may have a single individual performing multiple functions, it is also important to identify the percentage of time allocated to each function in order to ensure that each function is adequately covered.

Documentation: The water system must submit the following information:

1) Organization chart.

2) A complete description of the reporting relationships and primary responsibilities of all key personnel (including boards of directors or councils, employees and contract personnel) that will be involved in the management or operation of the water system. Information that shows how the organization functions, including who is responsible (name, position and title) for policy decisions, for ensuring compliance with state regulatory drinking water requirements and for day to day operations of the system.

The responsibilities of operating personnel should be defined. For systems with boards or councils, the frequency of meetings must be specified.

3) If the person in charge of the operation has other responsibilities unrelated to the water system, the information must show the amount of time the operator will spend on water system operation. The Operations Plan may be used as part of this demonstration.

4) A description of the relevant training and experience that persons responsible for the management of the water system have received.

5) A description of how legal, engineering and other professional services are provided.

6) If a system contracts for management and/or operation of their system, a copy of the contract or summary of the contractor's duties and responsibilities must be provided, which must also include the amount of time to be spent performing the specified duties at this water system.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) The information must clearly indicate how the organization functions, who is responsible for policy decisions, for ensuring compliance with state regulatory drinking water requirements and for day to day operations of the system. Information that indicates a confusing and/or diffused primary responsibility may indicate a need for restructuring the water system management or operation to comply with this TMF Capacity element.

2) Persons responsible must have sufficient time dedicated to reliably manage and operate the water system. For operators, this can be demonstrated by an analysis of the time it will take to operate all water system facilities, including treatment plants, on a routine basis compared to the time the operator is allocated to the water system. The system Operations Plan can be used to define the responsibilities of the operating personnel and to demonstrate adequate operator time dedicated to the water system as well as adequate number of operators.

3) If management and/or operation of the system are contracted, details must be provided which demonstrate that the water system can be reliably operated. The contract must define the functions the contractor will undertake and how much time they are devoting to it.

4) A copy of the system's incorporation articles, by-laws or governing ordinances should be requested, if necessary, to obtain a clear picture of the functional responsibility and authorities within the organization.

J. Emergency/Disaster Response Plans

It has been the experience of the Department, with the multitude of major disasters in California over the last ten years, that many of the systems impacted by disasters have since taken steps to expand their required Emergency Notification Plan to include a Disaster Response Plan (who, how, and when) and to establish communication links with other utilities, agencies, and emergency service providers. As a result, they are much better prepared to continue minimum service levels and mitigate the public health risks from drinking water contamination that may occur during a disaster or other emergency event. In order to provide reliable water service and minimize public health risks from unsafe drinking water during emergencies, water systems will be required to have a plan that defines how it will respond to emergencies and/or disasters that are likely to affect its operation.

Documentation: The water system must submit an Emergency/Disaster Response Plan with clearly defined response procedures. The plan must:

1) Address all disasters/emergencies that are likely to occur in the water system's service area. As a minimum, all water systems must address earthquake and major fire emergencies. Other potential emergencies that may occur in a water system's service area include flooding, water outages and water contamination.
2) Designate responsible personnel and provide a clear chain of command and identify responsibilities.
3) Include an inventory of system resources that are used for normal operations and available for emergencies. This information should include maps and schematic diagrams; lists of emergency equipment; equipment suppliers; emergency contract agreements; and emergency water interconnections and/or sources.
4) Include a communication network, appropriate to the size and type of water system, that describes a designated location for an emergency operations center; emergency contact information for equipment suppliers; emergency phone and radio communication capabilities; coordination procedures with governmental agencies for health and safety protection, technical, legal, and financial assistance; and public notification procedures.
5) Include emergency procedures to quickly assess damage to water system facilities; provide logistics for emergency source activation and repairs; monitor progress of repairs and restoration; communicate with health officials and water users; and document damage and repairs.
6) Describe the steps that will be taken to resume normal operations and to prepare and submit reports to appropriate agencies.

Evaluation: The following are to be considered in evaluating this TMF Capacity element:

1) Plans submitted must address all of the above elements in sufficient detail to ensure adequate system response during an emergency.
2) Does the system belong to an emergency mutual aid organization? How much assistance can this organization actually provide in the event of an emergency in the water system's service area?